National Climatic Data Center

DATA DOCUMENTATION

FOR

DATASET 9618a

Oct 1977 - Dec 1986

GLOBAL SUMMARY OF THE DAY

March 20, 2003

National Climatic Data Center
151 Patton Ave.
Asheville, NC 28801-5001 USA

Table of Contents

1. Abstract:

This tape contains three files of summarized data which have been extracted from surface synoptic weather observations, exchanged on the Global Telecommunications Systems (GTS). The National Meteorological Center (NMC) of NOAA contains an archive file of the complete surface synoptic reports which are received from the GTS. The climatic analysis center (CAC) extracts portions of these NMC archive files, performs an automated decode of extreme temperatures and accumulated precipitation according to WMO code manuals, and performs limited automated validation of the parameters. The data for all reporting stations are summarized on a daily basis to satisfy current operational requirements related to the assessment of crop and energy production.

2. Element Names and Definitions:

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FILE 1. DAILY SUMMARY FILES.

THIS FILE CONTAINS THE FOLLOWING FIELDS:

1. GREENWICH MEAN (ZULU) DATE OF DATA, IN THE FORM YYMMDD.

   FORMAT - I6.

2. WMO 5-DIGIT STATION IDENTIFIER OR 99999.99999 INDICATES THAT A 3 OR 4 LETTER AIRWAYS CALL SIGN IS PRESENT IN FIELD 3.
   FORMAT - 1X,I5.

3. 3 OR 4 CHARACTER AIRWAYS CALL SIGN, OR BLANKS.

   2 COMBINATIONS OF WMO IDENTFIIER AND CALL SIGN ARE POSSIBLE.

   A. WMO IDENTIFIER IN FIELD 2, AND BLANKS IN FIELD 3.
   B. 99999 IN FIELD 2, AND 3 OR 4 CHARACTER CALL SIGN IN FIELD3.

   FORMAT - 1X,A4.

4. LATITUDE OF STATION. NEGATIVE MEANS SOUTH LATITUDE.
   UNITS - .01 DEGREES OF LATITUDE.
   FORMAT - I6

5. LONGITUDE OF STATION. MEASURED WEST FROM GREENWICH MERIDIAN TO 360 DEGREES.
   UNITS - .01 DEGREES OF LONGITUDE
   FORMAT- I6.

6. STATION ELEVATION RELATIVE TO MEAN SEA LEVEL.
   UNITS - 1 METER.
   FORMAT - I5.

7. 24 HOUR MAXIMUM TEMPERATURE. MAY BE ESTIMATEDFROM REPORTED SYNOPTIC AIR TEMPERATURES IF SUFFICIENT DATA EXIST. 999 OR 9999 IF MISSING.
   UNITS - .1 DEGREE CELSIUS.
   FORMAT - I5.

8. 2 DIGIT MAXIMUM TEMPERATURE FLAG.

1ST DIGIT - NOT USED

2ND DIGIT –

0 - VALUE FROM EXTREME TEMPERATURE REPORTED
1- 3 VALUE DERIVED FROM AIR TEMPERATURES
9 - EXTREME TEMPERATURE MISSING.

FORMAT - I2

9. 24 HOUR MINIMUM TEMPERATURE. MAY BE ESTIMATED FROM REPORTED SYNOPTIC AIR TEMPERATURES IF SUFFICIENT DATA EXIST. 999 OR 9999 IF MISSING.

UNITS - .1 DEGREE CELSIUS
FORMAT - I5

10. 2 DIGIT MINIMUM TEMPERATURE FLAG.
(SAME AS FIELD 8)

FORMAT - I2

11. TOTAL OF PRECIPITATION REPORTED DURING THE 24 HOUR PERIOD. THIS AMOUNT MAY INCLUDE PRECIPITATION WHICH FELL DURING THE PREVIOUS 24 HOUR PERIOD PUT WAS NOT INCLUDED IN THE PREVIOUS DAYS SUMMARY RECORD.

UNITS - .1 MILLIMETER.
FORMAT - I5.

12.2 DIGIT 24 HOUR PRECIPITATION FLAG.

1ST DIGIT - NOT DEFINED

2ND DIGIT - CODE INDICATED THE ENDING TIME OF THE 24HR PERIOD THAT THE PRECIPITATION IS SUMMARIZED.

1-0300Z
2-0600Z
3-0900Z
4-1200Z
5-1500Z
6-1800Z
7-2100Z
0-2400Z.

A 9 INDICATES 0600Z ON THE DAY AFTER THE GREENWICH DATE INDICATED IN FIELD 1.

FORMAT - I2

13. PRECIPITATION TRACE FLAG. 1 CHARACTER. 3 VALUES POSSIBLE:

A. 'M' - PRECIPITATION AMOUNT MISSING.
B. 'T' - TRACE OF PRECIPITATION IN PAST 24 HOURS. SET TO 'T' WHEN DIGIT 1 OF 24 HOUR PRECIPITATION FLAG (FIELD 12) IS 1 AND 24 HOUR PRECIPITATION AMOUNT (FIELD 11) EQUALS 0.
C. BLANK - NEITHER OF ABOVE.

FORMAT - A1.00001700

14. PRESENT/PAST WEATHER CHARACTER FLAGS.

8 - 1 CHARACTER FLAGS INDICATING GENERAL FORM OF PRESENT WEATHER FOR EACH OF THE 8 SYNOPTIC REPORTING TIMES, OR PAST WEATHER EVENT NOT AVAILABLE. POSITION OF THE FLAG FROM LEFT TO RIGHT INDICATES THE TIME OATION, I.E.

00Z = POSITION 1,
03Z = POSITION 2, ETC.
'-' INDICATES NO STATION REPORT AVAILABLE.
'/' INDICATES NEITHER PRESENT NOR PAST WEATHER REPORTED.

THE OTHER CODES AVAILABLE ARE IN THE FOLLOWING TABLES OF PRESENT/PAST WEATHER.

15. NUMBER OF OBSERVATIONS RECEIVED.

16. NUMBER OF OBSERVATIONS REPORTING PRESENT OR PAST WEATHER PRECIPITATION.

17. TOTAL OF PRECIPITATION WHICH WAS REPORTED AND FELL DURING THE 24 HOUR PERIOD.

UNITS - .1 MILLIMETER.
FORMAT- I5.

18. THE TOTAL OF PRECIPITATION WHICH WAS REPORTED AND THE AMOUNT WHICH WAS ESTIMATED DURING ANY PERIODS WHEN REPORTED AMOUNTS WERE NOT AVAILABLE.

UNITS - .1 MILLIMETER.
FORMAT - I5.

19. THE NUMBER OF 6 HOUR PERIODS FOR WHICH REPORTED AMOUNTS WERE NOT AVAILABLE AND WERE ESTIMATED.

FORMAT - I2.

TABLE OF PRESENT WEATHER CHARACTER FLAGS DERIVED FROM NMC OFFICE NOTE 124, CODE TABLE 4.

1'S DIGIT OF PRESENT WEATHER

10'S DIGIT OF PRESENT WEATHER	0	1	2	3	4	5	6	7	8	9
00	0	0	0	0	K	H	D	D	D	D
10	F	F	F	T	0	R	R	T	Q	T
20	L	R	S	S	Z	R	S	A	F	T
30	D	D	D	D	D	D	B	B	B	B
40	F	F	F	F	F	F	F	F	Z	Z
50	L	L	L	L	L	L	Z	Z	R	R
60	R	R	R	R	R	R	Z	Z	S	S
70	S	S	S	S	S	S	S	S	S	S
80	R	R	R	S	S	S	S	A	A	A
90	A	T	T	A	A	T	A	T	T	A

TABLE OF PAST WEATHER CHARACTER FLAGS.
FROM NMC OFFICE NOTE 124, CODE TABLE 5.

PAST WEATHER DIGIT

0	1	2	3	4	5	6	7	8	9
0	0	0	B	F	L	R	S	W	T

FORMAT 8A1.

15. NUMBER OF SYNOPTIC TIMES THAT STATION REPORTED DURING THE DAY.

FORMAT - I2.

16. NUMBER OF SYNOPTIC REPORTS TAKEN DURING THE DAY IN WHICH EITHER PAST OR PRESENT WEATHER INDICIATED PRECIPITATION. WILL ALWAYS BE LESS THAN OR EQUAL TO FIELD 15. THE FOLLOWING TABLES OF PRESENT/PAST WEATHER ARE USED TO DETERMINE IF PRECIPITATION HAS OCCURRED:

TABLE OF PRESENT WEATHER INDICATING PRECIPITATION OCCURRENCE AS DEFINED BY CEAS DERIVED FROM OFFICE NOTE 124, CODE TABLE 4.

0 - DOES NOT COUNT TOWARD NUMBER OF OBSERVATIONS WITH PRECIPITATION.
1 - COUNTS TOWARD NUMBER OF OBSERVATIONS WITH PRECIPITATION

1'S DIGIT OF PRESENT WEATHER CODE

10'S DIGIT OF PRESENT WEATHER CODE	0	1	2	3	4	5	6	7	8	9
00	0	0	0	0	0	0	0	0	0	0
10	0	0	0	1	0	1	1	1	1	1
20	1	1	1	1	1	1	1	1	0	1
30	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0
50	1	1	1	1	1	1	1	1	1	1
60	1	1	1	1	1	1	1	1	1	1
70	1	1	1	1	1	1	1	1	1	1
80	1	1	1	1	1	1	1	1	1	1
90	1	1	1	1	1	1	1	1	1	1

TABLE OF PAST WEATHER INDICATING PRECIPITATION OCCURRENCE AS DEFINED BY CEAS FROM NMC OFFICE NOTE 124, CODE TABLE 5

PAST WEATHER DIGIT

0	1	2	3	4	5	6	7	8	9
0	0	0	0	0	1	1	1	1	1

FORMAT - I2.

* * * NOTE: CHANGES WERE MADE TO OPERATIONS DURING FEB. 1978.
FIELDS 8,10,12,15,16 SHOULD NOT BE USED PRIOR TO THIS DATE.
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FILE 2. MONTHLY SUMMARY FILE.

THIS FILE CONTAINS THE FOLLOWING FIELDS:

1. YEAR AND MONTH OF DATA, IN FORM YYMM.
   FORMAT - I4.

2. WMO 5-DIGIT STATION IDENTIFIER OR 99999. 99999 INDICATES THAT A 3 OR 4 LETTER AIRWAYS CALL SIGN IS PRESENT IN FIELD 3.
   FORMAT - 1X,I5.

3. 3 OR 4 CHARACTER AIRWAYS CALL SIGN, OR BLANKS.
   2 COMBINATIONS OF WMO IDENTIFIER AND CALL SIGN ARE POSSIBLE.
   A. WMO IDENTIFIER IN FIELD 2, AND BLANKS IN FIELD 3.
   B. 99999 IN FIELD 2,AND 3 OR 4 CHARACTER CALL SIGN IN FIELD 3.

   FORMAT - A4.

4. LATITUDE OF STATION. NEGATIVE MEANS SOUTH LATITUDE.
   UNITS - .01 DEGREES OF LATITUDE.
   FORMAT - F6.2

5. LONGITUDE OF STATION. MEASURED WEST FROM GREENWICH MERIDIAN TO 360 DEGREES.
   UNITS - .01 DEGREES OF LONGITUDE.
   FORMAT - F7.2.

6. STATION ELEVATION RELATIVE TO MEAN SEA LEVEL. NEGATIVE IS BELOW SEA LEVEL.
   UNITS - 1 METER
   FORMAT - F6.0.

7. MEAN TEMPERATURE FOR THE MONTH. COMPUTED FROM ALL PAIRED DAILY MAXIMUM AND MINIMUM TEMPERATURES. 999.9 IF MISSING.
   UNITS - .1 DEGREES CELSIUS.
   FORMAT - F6.1

8. NUMBER OF PAIRED MAX/MIN TEMPERATURES FROM WHICH THE MEAN WAS COMPUTED. IF 28 DAYS HAD PAIRED MAX/MIN, THIS WOULD BE 56.
   FORMAT - I2.

9. MEAN MAXIMUM TEMPERATURE FOR THE MONTH. 999.9 IF MISSING.
   UNITS - .1 DEGREE CELSIUS.
   FORMAT - F6.1.

10. NUMBER OF MAXIMUM TEMPERATURES REPORTED DURING THE MONTH.
    FORMAT - I2.

11. MEAN MINIUM TEMPERATURE FOR THE MONTH. 999.9 IF MISSING.
    UNITS - .1 DEGREE CELSIUS
    FORMAT - F6.1.

12. NUMBER OF MINIMUM TEMPERATURES REPORTED DURING THE MONTH.
    FORMAT - I2.

13. HIGHEST MAXIMUM TEMPERATURE DURING THE MONTH. -999.9 IF MISSING.
    UNITS - .1 DEGREES CELSIUS.
    FORMAT - F6.1.

14. DAY OF MONTH WHEN HIGHEST MAXIMUM TEMPERATURE OCCURRED.

FORMAT - 1X,I2.

15. LOWEST MINIMUM TEMPERATURE DURING THE MONTH. 999.9 IFMISSING.
UNITS - .1 DEGREE CELSIUS
FORMAT - F6.1.

16. DAY OF MONTH WHEN LOWEST MINIMUM TEMPERATURE OCCURRED.
FORMAT - 1X,I2.

17. SUM OF ALL REPORTED DAILY PRECIPITATION AMOUNTS DURING THE MONTH. 0.0 IF ALL AMOUNTS MISSING.
UNITS - .1 MILLIMETERS.
FORMAT - F8.1.

18. NUMBER OF DAYS ON WHICH 24 HOUR PRECIPITATION AMOUNTS WERE OBTAINED EITHER FROM REPORTED AMOUNTS OR ESTIMATES.
FORMAT - 1X,I2.

19. NUMBER OF OCCURRENCES OF DAILY TRACE FLAG IN FILE 1, FIELD 13, SET TO 'T'.
FORMAT - I2.

20. NUMBER OF DAILY SUMMARY REPORTS FOUND FOR THIS STATION.
FORMAT - I2.

21. NUMBEROF SYNOPTIC REPORTS RECEIVED DURING MONTH.
FORMAT - I3.

22. NUMBER OF REPORTS DURING MONTH WHOSE PAST OR PRESENT WEATHER INDICATED PRECIPITATION. SEE TABLE IN FILE 1, FIELD 16 FOR PRECIPITATION WEATHER AND PAST WEATHER TYPES.
FORMAT - I3.

23. SUM OF ALL REPORTED DAILY PRECIPITATION AMOUNTS DURING THE MONTH.

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FILE 3. 3 HOURLY SNOW DATA FILES.

THIS FILE CONTAINS THE FOLLOWING FIELDS:

1. WMO 5-DIGIT STATION IDENTIFIER OR 99999.
99999 INDICATES THAT A 3 OR 4 LETTER AIRWAYS CALL SIGN IS PRESENT IN FIELD 2.
FORMAT - I5.

2. 3 OR 4 CHARACTER AIRWAYS CALL SIGN, OR BLANKS.

2 COMBINATIONS OF WMO IDENTFIIER AND CALL SIGN ARE POSSIBLE.
A. WMO IDENTIFIER IN FIELD 2, AND BLANKS IN FIELD 3.
B. 99999 IN FIELD 2, AND 3 OR 4 CHARACTER CALL SIGN IN FIELD 3.

FORMAT - A4.

3. GREENWICH MEAN (ZULU) DATE OF DATA, IN THE FORM YYMMDD.
FORMAT - I6.

4. GREENWICH MEAN(ZULU) TIME OF REPORT IN WHOLE HOURS.
FORMAT - I2.

5. AIR TEMPERATURE AT TIME OF REPORT IN WHOLE DEGREES CELSIUS.

FORMAT - I3.

6. SNOW DEPTH IN WHOLE MM.
FORMAT - I5.

7. WATER EQUIVALENT OF SNOW/ICE IN WHOLE MM.
FORMAT - I5.

8. SNOWFALL AMOUNT IN WHOLE MM.
FORMAT - I5.

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FILE 4. MONTHLY CLIMAT DATA.

6. SNOW DEPTH IN WHOLE MM.

3. Start Date:

Oct 1977

4. Stop Date:

Dec 1986

5. Coverage:

a. Southernmost Latitude: 90S
b. Northernmost Latitude: 90N
c. Westernmost Longitude: 180W
d. Easternmost Longitude: 180E

6. How to Order Data:

National Climatic Data Center
Climate Services Branch
Federal Building
151 Patton Avenue,
Asheville, NC 28801-5001

Phone number: (828)271-4800
Internet address: http://lwf.ncdc.noaa.gov/oa/ncdc.html
E-mail: ncdc.orders@noaa.gov (Orders)
ncdc.info@noaa.gov (Information)

7. Archiving Data Center:

National Climatic Data Center, NOAA/NESDIS/NCDC
Federal Building
151 Patton Avenue
Asheville, NC 28801-5001

8. Technical Contact:

George Fulwood/Bob Churchill/Joanna Dionne
Climate Analysis Center
WD53, WWB, Room 805
Washington, DC 20233
Telephone: 301-763-4670

9. Known Uncorrected Problems:

10. Quality Statement:

If the maximum or minimum temperatures are not reported they are estimated from reported air temperatures in the regular synoptic reports when sufficient data exist.

11. Essential Companion Datasets:

none

12. References:

none